



# SCRIPTING IN MULTIPLE LANGUAGES



[bit.ly/hispus\\_scf](https://bit.ly/hispus_scf)



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(the PEPFAR installation of DHIS2)

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1.

WHO AM I?

# CODING EXPERIENCE

- ▶ Basic
- ▶ DOS Batch
- ▶ Visual Basic
- ▶ Excel
- ▶ C++
- ▶ Javascript
- ▶ Perl
- ▶ PHP
- ▶ SQL
- ▶ Bash
- ▶ Scheme
- ▶ Python
- ▶ Java
- ▶ R

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# 2.

## THE PROBLEM

Search

NEW



Tree ▼



METADATASTORE



assignments



organisationUnitL...



bridge



social-media-video



▼ object {66}



▶ Angola {7}



▶ Antigua &amp; Barbuda {7}



▶ Bahamas {7}



▶ Barbados {7}



▶ Belize {7}



▶ Botswana {7}



▶ Brazil {7}



▶ Burkina Faso {7}



▶ Burma {7}



▶ Burundi {7}



▶ Cambodia {7}



▶ Cameroon {7}



▶ China {7}



▶ Costa Rica {7}



▶ Cote d'Ivoire {7}

# MODIFY A DATA STORE OBJECT

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3.

PYTHON

# PYTHON CHARACTERISTICS

- ▶ Created in 1991
- ▶ Heightened popularity around 2004, partially due to Google
- ▶ Designed for ease of writing code and readability (e.g., semantic indenting)
- ▶ Great all-purpose programming tool



4.

R

# R CHARACTERISTICS

- ▶ Created in 1993; based on S (1976)
- ▶ Heightened popularity in the mid-2000s
- ▶ Many statistical processes that are extremely difficult in other languages are straightforward in R
- ▶ Favorite language of pirates

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5.

JAVASCRIPT

# JAVASCRIPT

## CHARACTERISTICS

- ▶ Created in 1995
- ▶ Popular almost immediately, as it was the main way to make webpages dynamic on the client side
- ▶ Based on Scheme, but has a syntax similar to Java and C++
- ▶ Because it was often run in unknown environments, known for platform compatibility issues
- ▶ Turned into a server-side language at the advent of nodejs in 2009

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6.

JAVA

# JAVA CHARACTERISTICS

- ▶ Created in 1995
- ▶ Based on C++
- ▶ Designed to create cross-platform applications (e.g., Windows, Mac, Unix)
- ▶ Popular almost immediately
- ▶ Open source since 2006

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7.

BASH

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X.

INTERMISSION?



# BASH CHARACTERISTICS

- ▶ Created in 1989; ancestors include:
  - Bourne shell (1979)
  - Thompson shell (1975)
  - Multics (1965)
- ▶ Included with Linux, OS X, and even Windows
- ▶ Designed to execute commands interactively; not originally for scripting
- ▶ Is generally available but not a good idea for anything other than simple scripts

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8.

SQL

# SQL CHARACTERISTICS

- ▶ Created in the mid-1970s
- ▶ Became popular in the 1980s and is the most widely used database language
- ▶ Can be used procedurally, but often is written in single statements and used with other languages
- ▶ Different implementations are not fully compatible with each other

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9.

CODA

# FUTURE WORK

- ▶ Ruby
- ▶ Scheme
- ▶ Access
- ▶ Visual Basic
- ▶ Excel
- ▶ Dolittle
- ▶ Scratch
- ▶ Piet
- ▶ Obfuscated Perl
- ▶ Brainfsck

# THANKS!

## Any questions?

Contact: [ben@dhis2.org](mailto:ben@dhis2.org)

Code files on Github: [bit.ly/hispus\\_sml](https://bit.ly/hispus_sml)